

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Official Action dated 14 July 2004. Responsive to the rejections made in the Official Office Action, Claim 1 has been amended to clarify the combination of elements which form the invention of the subject Patent Application.

In the Official Action, the Examiner rejected Claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over Bryant, et al. (U.S. Patent #6,700,613) in view of Tranchita, et al. (U.S. Patent #5,739,847). The Examiner stated that Bryant discloses a digital camera with a multi-illuminating source. The Examiner also stated that Bryant discloses the digital camera is comprised of a microprocessor that provides a trigger signal, a flash lamp driver, a flash lamp, an infrared element, a charge coupled sensor, a filter and memory for storing a digital image as claimed in Claim 1 of the Subject Application. The Examiner admitted that Bryant does not disclose a laser diver connected to the microprocessor for receiving the trigger signal. However, the Examiner then referred to Tranchita as disclosing an electronic surveillance camera that uses infrared radiation from a light source such as a laser diode or LEDs to illuminate a desired field of view and that transistor switches are selectively controlled to provide different operating voltages that drive the light source to provide varying intensities of illumination. The Examiner then concluded that it would have been obvious to one skilled in the art at the time of the invention to combine the laser driver of Tranchita in the digital camera of Bryant.

Before discussing the references relied upon by the Examiner, it is believed beneficial to first briefly review the structure of the invention of the subject Patent Application, as now claimed. The invention of the subject Application is directed to a digital camera with a multi-illuminating source. The digital camera is comprised of a microprocessor, a flash lamp driver, a flash lamp, a laser driver, an infrared element, a charge coupled sensor, and a memory. The microprocessor provides a trigger signal in one of a flash lamp illuminating mode and an infrared illuminating mode. The flash lamp driver is connected to the microprocessor for receiving the trigger signal in the flash lamp illuminating mode. The flash lamp is connected to the flash lamp driver, wherein the flash lamp is controlled by the flash lamp driver to emit a flashlight signal toward a target. The laser driver is connected to the microprocessor for receiving the trigger signal in the infrared illuminating mode. The infrared element is connected to the laser driver for emitting a series of infrared light signals toward the target, wherein the infrared light signals are pulsed in an alternating series of on and off states. The charge coupled sensor is connected to the microprocessor for receiving a reflected signal from the target through a filter and converting the reflected signal into a digital photo signal, wherein the charge coupled sensor is synchronized to the pulsed series of infrared light signals, as shown in Fig. 3 of the subject Patent Application. The memory is connected to the charge coupled sensor for storing the digital photo signal from the charge coupled sensor. The synchronizing of the charge coupled sensor with the pulses of the infrared light signals

has the effect of reducing noise in the final image by avoiding exposure of the charge coupled sensor to spurious infrared signals when the infrared illumination is off. The synchronizing of the charge coupled sensor to the pulsed series of infrared light signals is neither disclosed nor suggested by Bryant in view of Tranchita.

In contradistinction, Bryant discloses a data reading image capture camera that includes a controller or microprocessor 66, a flash unit 62, an invisible infrared light source 60, a digital image detector 28, filters 36 and 38, and memory unit 74 and 76. As admitted by the Examiner, the Bryant reference does not disclose a laser driver. There is no disclosure or suggestion of driving an emitter in a series of alternating on and off pulses. Further, the Bryant reference does not disclose a charge coupled sensor that is synchronized to have a pulsed sensing period to receive the reflected series of infrared light signals. Therefore, Bryant provides no mechanism for coupled emission and detection of discrete pulses of infrared light responsive to a trigger signal from a controller, as provided by the invention of the subject Patent Application.

The Tranchita reference does not overcome the deficiencies of Bryant. Tranchita discloses a system for varied intensity and/or infrared auxiliary illumination of a surveillance area. The device includes a movie camera, a light source 10, which may be a laser diode or one or more LEDs, and an oscillator 36 that drives a counter 37 that controls steps of increasing voltage supplied to the light source 10. Tranchita further discloses a method of recording successive frames of images of subjects in a surveillance

MR929-675

Application Serial No. 09/859,597

Responsive to Office Action dated 14 July 2004

field of view by means of a surveillance camera. The method includes illuminating the field of view with a source of illumination, and varying the intensity of the illumination as a function of time. The Tranchita reference does not disclose a laser driver that controls an infrared element to emit infrared light signals that are pulsed in a series of on and off states during a single image frame. Further, the Tranchita reference does not disclose a charge coupled sensor that is synchronized to the series of pulses to receive the reflected series of infrared light signals. Therefore, Tranchita provides no mechanism for coupled emission and detection of discrete pulses of infrared light responsive to a trigger signal from a controller, as provided by the invention of the subject Patent Application.

Thus, as the combination of Bryant and Tranchita do not disclose or suggest the concatenation of elements that form the invention of the subject Patent Application, as now claimed, those references cannot make obvious the subject invention.

It is now believed that the subject Patent application is in a condition for allowance, and such action is respectfully requested.

Respectfully submitted,
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